CURRICULUM VITAE

Name:	Nicholas John DEACON
Date of Birth:	30th October, 1949
Marital Status:	Married, two children
Nationality:	British by birth; Australian citizenship
Tertiary Education:	
ONC:	October 1966 - 1968, Brighton Technical College, Brighton, Sussex, UK June 1967 - Maths and Physics June 1968 - Biology, Chemistry and Medical Laboratory Sciences
HNC:	October 1968 - June 1970, Brighton College of Technology, Brighton, Sussex, UK June 1970 - Medical Laboratory Sciences (Credit) and as a special subject: Clinical Chemistry (Credit).
BSc:	October 1970 - July 1973, Queen Elizabeth College, University of London. Degree of Biochemistry, 2nd Class Honours, Upper Division. The degree included courses in Organic, Inorganic and Physical Chemistry, Physiology, Microbiology, Intermediary Metabolism, Advanced Enzymology, Genetics, Bioenergetics, Protein synthesis, Practical Biochemistry, Endocrinology, Cellular Organisation and Immunology. A research project was undertaken in the third year, the results of which were published under the title "Effects of Haemolysis on Plasma and Serum Immunoglobulin Estimations", see Publications below.
PhD:	October 1973, - September 1976, Queen Elizabeth College, University of London. Thesis entitled: "Studies on Immunoglobulins and Nucleic Acids in the Immune Response".

Appointments:

Medical Laboratory Technician

September 1966 - September 1970,
Medical Laboratory Technician (Student to State Registered Technician), Eastbourne Hospital Management Committee, Eastbourne, Sussex, UK. Gained experience in Haematology, Histology, Bacteriology, and Clinical Chemistry. Studied for Ordinary National Certificate (ONC) and Higher National Certificate (NHC) in Medical Laboratory Sciences. Gained State Registration (UK) in 1970.

Postdoctoral Fellowship:

December 1976 - February 1978, Molecular Biology Unit, Research School of Biological Sciences (R.S.B.S.), The Australian National University, Canberra.

Research Fellowship:

March 1978 - January 1983, Molecular Biology Unit, (as above). R.S.B.S. Radiation Safety Officer 1979 - 1982, inclusive. Non-tenured staff representative on R.S.B.S. faculty board 1981 - 1982, inclusive.

Senior Research Fellow: and Head of Laboratory

February 1983 - September 1989, Molecular Biology Laboratory, Research Centre for Cancer and Transplantation (R.C.C.T) Department of Pathology, The University of Melbourne, Parkville. Vic 3052. R.C.C.T., Radiation Safety Officer 1984 - 1989.

Senior Research Fellow: and Head of Laboratory

September 1989 - March 1997. AIDS Molecular Biology Unit, Macfarlane Burnet Centre for Medical Research Limited, Fairfield Hospital, Fairfield Victoria
A Laboratory of the National Centre for HIV Virology Research.

Principal Research Fellow: and Head of Laboratory

March 1997 - present. AIDS Molecular Biology Unit, Macfarlane Burnet Centre for Medical Research Limited, Fairfield Hospital, Fairfield Victoria
A Laboratory of the National Centre for HIV Virology Research.

Lecturing and Students:

1983 to present. Lectures in basic molecular biology and retrovirology to 3rd year BSc and Honours year student in the Pathology Department and the Microbiology Departments of the University of Melbourne.

1990 made an Associate in the Department of Microbiology, University of Melbourne.

Supervisor of 13 BSc honours year, 2 MSc and 11 PhD students to date, see separate list below for thesis titles.

Research Awards:

ACCV/Harold King Research Award (1987).
ACCV/Gnarpurt Art and Craft Festival Committee's Research Award (1987).

ACCV/Ormond Neil Yo Research Award (1988).
ACCV/Vera Watson Research Award (1988).

Professional Society Membership:

American Society for Microbiology (1986 - Present)
Australasian Society for HIV Medicine (1992 - Present)
Australian Society for Microbiology (1989 - Present)
Australian Society for Medical Research (1995 - Present)
Australian Biochemical Society (1977 - 1989)
Australian Biotechnology Association (1986 - 1988)
Australian New Zealand Society for Cell Biology (1985 - 1990)
Australian Primatology Society (1988 - 1989)

Patents:

"Gibbon ape leukaemia virus based retrovirus vectors". M.V. Eiden, C.A. Wilson, N.J. Deacon & D. Hooker. DHHS No. 086-93/0. Filed with the US Patent and Tradermark Office, April 6th, 1993.

"Non-Pathogenic Strains of HIV-1" Australian Red Cross-NSW Division and Macfarlane Burnet Centre for Medical Research. Filed with the Australian Patent Office, Feb 14th 1994.

Journal Reviewer

AIDS Research and Human Retroviruses (1996 - present)
Archives of Virology (1994 - present)
Immunology and Cell Biology (1994 - present)
Journal of Medical Virology (1994 - present)
Journal of Virological Methods (1994 - present)
Journal of Virology (1997 - present)

Grant and Award Reviewer

Australian Research Council (ARC) (1996 - present)
Commonwealth AIDS Research Grants Committee (1990 - present)
NH & MRC Independent panel of Assessors (1981 - present)
Assessor for the Anti-Cancer Funds and Foundationsof New South Wales, Queensland and South Australia (1987 - present).
Monash University, Microbiology Department Research Grant, Panel of Assessors (1992).
AMRAD Student Travel Bursary Award (1995 - 1997)
ASMR Medical Research Week Award, Chairman of Panel of Judges (1995, 1997).

Committee Membership and Official Positions

Radiation Safety Officer, Research School of Biological Sciences, Australian National University (1979 - 1982).
Member of Faculty Board, Research School of Biological Sciences, Australian National University (1981 - 1982).
Radiation Safety Officer, Research Centre for Cancer and Transplantation, University of Melbourne (1984 - 1989).

Member, Molecular Biology specialist, of the Institutional Biosafety Committees of The Royal Melbourne Hospital (1986 - present) and The Austin& Repatriation Medical Centre (1993 - present).
Quality Control Laboratory Group of the HIV-1 Clinical Trials and Treatment Committee (1992 - 1995)
MBCMR Superannuation Fund Trustee, Member-Elected (1994 - present)
ASMR, Victorian Medical Research Week Organising Committee (1995 - present).
Organising committee for the ASHM/National Centres in HIV Annual Conference, (1995).
Chairman, ASMR, Victorian Medical Research Week Organising Committee (1996).
Member of Reference Group for Access Information Centre At The Alfred (1997 to present)

Theses Examined.

MBiotech:

Monash University, 1992
"Detection and typing of human papillomavirus DNA in clinical biopsy specimens using digoxygenin labelled probes"

MSc:

Deakin University, 1993
"The use of complementary oligonucleotides in determining the sites of ribosome subunit association in wheat embryos"

University of Melbourne, 1993
"Alternative splicing of the complement regulator CD46"

PhD:

Australian National University, 1987
"Molecular characterisation of the novel gene *nbl* in normal and tumour cells"

Australian National University, 1992
"*Cis* acting gene to gene interactions on chromosomes controlling the activity of an oncogene"

Australian National University, 1995
"Oncogenic Progression in Retrovirus-Induced T-cell Leukaemia"

University of Western Australia, 1995
"Identification and Characterisation of Murine Cytomegalovirus Genes Encoding Later Immunoreactive Proteins"

University of Adelaide, 1997
"Transcriptional Analysis of Human Immunodeficiency Virus Type 1 Infection Following Cell to Cell Transmission"

PhD and BSc Honours Theses Supervised.

PhD.

Purcell DFJ (1987). "Human lymphocyte antigen, HuLym5, and primate retroviruses." Melbourne.

Panaccio M (1988). "Identification of T-cell specific transcripts." Melbourne.

Clark GH (1988). "Molecular characterisation of the murine lymphocyte surface antigen CD4." Melbourne.

Wijffels G (1989).	"Biochemical studies on Pgp-1 CD44." Melbourne.
Yang C (1990).	"Primate retroviruses and related human DNA sequences." Melbourne.
Churchill MJ (1993).	"Transcription factors involved in the regulation of HIV-1 gene expression." Melbourne.
Goodall J (1994).	"Differential expression of HIV-1 mRNAs." Melbourne.
Forrester H (1996)	"The use of gel-electrophoresis to increase dose response of x-ray induced DNA in the stranded breaks." Melbourne.
Peeters A (1997).	"Transcriptional regulation of HIV-1." Melbourne.
Pereira L (due 1998)	"Regulation of HIV Transcription by Cellular Transcription Factors." Melbourne.
Bentley K (due 2000)	"Bidirectional Transcription from the HIV-1 LTR."

MSc.

Hooker D (1992)	"Molecular Studies on Gibbon Ape Leukaemia Virus." Pathology, Melbourne
Ludford-Menting M (due 1998)	"Interactions of Transcription Factors with the HIV-1 LTR in Activated and Quiescent Cells." Microbiology, Melbourne

BSc Honours.

Gill A (1981)	"Isolation of coding sequences for rodent ß glucuronidase." Biochemistry, ANU.
Clark G (1983)	"The molecular characterisation of murine Ly-24 glycoprotein." Pathology, Melbourne.
Dennis L (1983)	"The molecular biology of murine Ly-5 and Ly-15 glycoproteins." Pathology, Melbourne.
Feder G (1984)	"An *in situ* immunoassay for the detection of specific cloned antigens." Pathology, Melbourne.
Forrester H (1988)	"The measurement of x-ray induced DNA double stranded breaks using probe field gel electrophoresis." Pathology, Melbourne.

Fernandez C (1991)	"Defective human immunodeficiency virus type 1 particles. Identification of encapsidated mRNA species." Microbiology, Melbourne.
Smith K (1992)	"Potential role of human immunodeficiency virus *nef* gene and its product in CNS tropism." Microbiology, Melbourne.
Solomon A (1993)	"Investigation of the molecular basis of AZT resistance in HIV-1 and the establishment of a PCR based assay to detect mutations associated with AZT resistance." Microbiology, Melbourne.
Chapman A (1994)	"Investigation of Novel Protein -DNA Interactions Occuring in the Long Terminal Repeat of HIV-1." Microbiology, Melbourne.
Anderson J (1995)	"Molecular Basis of Drug Resistance by HIV-1." Microbiology, Melbourne.
Thomas R (1995)	"Transcriptional Control of HIV-1 Gene Expression." Microbiology, Melbourne
Cameron J (1996)	"Mutational Analysis of the HIV-1 Rev Response Element (RRE)." Microbiology, Melbourne.
Czajkowski L(1998)	"HIV-1 Gene Promoter Activity and Chromatin Structure." Microbiology & Immunology, Melbourne

Research Career

My PhD studies concerned two diverse areas of immunology. Firstly, genetics of the immune response, in which I studied the response of inbred mouse strains to the antigen horse ferritin and attacked the autosomal dominant immune response gene theory and promoted the codominant cross tolerance hypothesis. Secondly, immunoblobulin mRNA studies including a study of the translation and post translational modification of immunoglobulins by microinjection of Xenopus laevis oocytes with Ig mRNA. This included a demonstration of the synthesis in the oocytes of antigen-specific antibodies.

My interests in molecular biology were followed during time at the A.N.U. where I studied the role of dsRNA and the precursor-product relationship of pre mRNA - mRNA in the chicken globin system. It was during this time that I learned molecular cloning, DNA sequencing and other molecular biological techniques. Theoretical studies were also undertaken concerning pre mRNA structure and processing (splicing), the relationship between the size of exons and introns (the average exon size is equivalent to the length of DNA wound onto a nucleosome) and the relationship between gene size and the distance between functional genes, as opposed to non-functional or pseudogenes.

At Melbourne University much of my early time was spent teaching molecular biology to the other members of the Research Centre for Cancer & Transplantation. My laboratory was directly concerned with the cloning and molecular characterisation of murine and human cell surface (CD) antigens, including both the α and ß chains of murine CD8 (Ly 2 and Ly 3, respectively), murine CD4 and human CD46. I was also indirectly involved with the cloning of murine Fc receptors. As many of these CD antigens have allelic forms we developed a PCR/direct sequencing technique to determine allele-specific sequences in the early days of PCR. The subtractive cloning technique was also established for the cloning of T-cell specific mRNAs. During this time I became interested in retroviruses. In studying the serological cross reactivity between the human cell surface antigen CD46 and primate envelope gp70 we cloned and sequenced CD46 and sequenced the *pol-env*-LTR regions of gibbon ape leukaemia virus strains GaLV-SF, GaLV-SEATO and SSAV. As well as determining splice sites used for production of *env* mRNA we constructed the first infectious molecular clone of GaLV which is being adapted for use in gene therapy (at NIH).

On moving to the Macfarlane Burnet Centre my interest in retroviruses has expanded to encompass studies on HIV-1 including the transcriptional control, structure and splicing of the many mRNAs and the molecular characterisation of variants of HIV-1, thus developing a theme of nucleic acid:protein interactions.

To date this has led to:

(1) the identification of the *c-myb* proto-oncogene product as a critical stimulus for HIV replication,
(2) partial characterisation of 10 new proteins that bind to the U3 region of the LTR, with as yet undetermined roles in transcription regulation,
(3) mapping and characterisation of the HIV-1 negative sense (NS) transcription promoter, including the discovery of a fourth Sp1 site crucial for NS transcription.
(4) identification of two new mRNA splice sites (SA11 and SA12) and a family of a novel of HIV RNA species

(5) identification and confirmation, by site directed mutagenesis, of an additional mutation in the reverse transcriptase (RT) at codon 210 (Leu to Trp) that confers resistance to AZT,
(6) determined the order of appearance of AZT-resistance associated reverse transcriptase mutations including codon 210, as well as demonstrating combinations of mutations, including Leu210Trp, that lead to high level resistance (>300 fold increase) to AZT.
(7) establishment of a direct, rapid and quantitative method for the analysis of drug resistance associated mutations in the RT gene,
(8) Molecular characterisation of an attenuated strain of HIV-1 (associated with the Sydney Bloodbank Cohort of long-term non-progressors) that could be the basis of a live attenuated virus vaccine against HIV-1/AIDS.

Recently my laboratory (the AIDS Molecular Biology Unit) has expanded significantly in size for the Sydney Bloodbank Cohort attenuated strain of HIV-1 project.. The laboratory now consists of has 6 post doctoral fellows/research officers, 4 research assistants, 2 PhD students and 1 BSc Honours student. Of these, 4 post doctoral fellows/research officers and 2 research assistants are working on the attenuated HIV-1 project.

The work of my laboratory has involved a number of collaborations especially with my colleagues in the AIDS Cellular Biology, AIDS Pathogenesis and Anti-Viral Research Units at the MBCMR, but also with a number of researchers, both in Australia and internationally, including:

A/Professor Bruce Brew and A/Professor John Kaldor (National Centre for HIV Epidemiology and Clinical Research, St Vincent's Hopital, Sydney, NSW), A/Professor Anthony Cunningham, (Institute of Clinical Pathology and Clinical Research, Department of Virology, Westmead Hospital, NSW), Dr Jenny Learmont (NSW Blood Transfusion Centre, Sydney, NSW), Dr Ian Ramshaw (Cell Biology Group, John Curtin School of Medical Research, Australian National University, Canberra, ACT), Professor Ismail Kola (Molecular Genetics and Development Group, Monash University Medical Centre, Clayton, Victoria), Dr Edward Arnold (Biomolecular Crystallography Laboratory, Centre for Advanced Biotechnology and Medicine, Rutgers University, NJ, USA), Professor Martin Rosenberg (SmithKline Beecham, King of Prussia, PA, USA),

The discovery of the attenuated strain of HIV-1 has presented a unique opportunity so that, during the next few years, my research will be targetted to:

(a) better understand the relationship between gene and gene promoter structure and function/attenuation of HIV-1,
(b) construct a candidate live attenuated vaccine against HIV/AIDS and
(c) develope the use of the attenuated strain of HIV-1 as a vector for the delivery of anti-viral factors (eg. cytokines and chemokines) in therapy.

In addition, I am further developing the theme of protein:nucleic acid (DNA and RNA) interactions and their role in the regulation of HIV-1 expression by:

(d) developing a cellular system in which to study the interaction of DNA-binding proteins (transcription factors) with DNA in the context of chromatin structure in the regulation of RNA Polymerase II dependent transcription of HIV-1 and
(e) further characterising the interaction of the family of HIV-1 splice acceptor 12 processed transcripts with cellular and viral proteins.

PUBLICATIONS

Peer Reviewed Publications.

1. Effect of haemolysis on plasma and serum immunoglobulin estimation. **N.J Deacon** and A. Ebringer. Experientia 32:384-86 (1976).

2. Genetic control of the immune response to ferritin in mice. C.R. Young, **N.J. Deacon**, A. Ebringer and D.A.L. Davies. J. Immunogenetics 3:199-205 (1976).

3. The Dominance index and immunogenetic (IR) gene system. A. Ebringer, **N.J. Deacon**, and C.R. Young. Heredity 36-284 (1976).

4. Codominant inheritance of immunogenetic (IR) gene system. A. Ebringer, **N.J. Deacon**, and C.R. Young. J. Immunogenetics 3:401-409 (1976).

5. Studies on immunoglobulins and nucleic acids in the immune response, **N.J. Deacon**, PhD Thesis, University of London (1976).

6. Fucose incorporation into oocyte synthesised rat immunoglobulins. **N.J. Deacon**, and A. Ebringer. FEBS Letters 79:191-194 (1977).

7. Cross-reactivity with mouse antigens in the ferritin immunogenetic (IR-Gene) system. **N.J. Deacon**, M. Montell, N. Ngwa Suh, C.R. Young, A. Ebringier and D.A.L. Davies. Br. J. Exp. Path. 59:644-651 (1978).

8. Post-translational modifications of rat immunoglobulins synthesised in the Xenopus oocyte translational system. **N.J. Deacon** and A. Ebringer. Immunology 39:137-144 (1979).

9. Base-paired interaction, in vitro, between hen globin 9s mRNA and eukaryotic ribosomal RNAs. A.A. Azad and **N.J. Deacon**, Biochem. Biophys. Res. Commun. 86:568-576 (1979).

10. Similarity between 5'- and 3'- terminal nucleotide sequence and double-stranded RNA-derived sequences of eukaryotic mRNA. H. Naora, **N.J. Deacon** and K.R. Fry. J. Theor. Biol. 80:205-221 (1979).

11. Complete nucleotide sequence of a cloned chicken _-globin cDNA. **N.J. Deacon.** J. Shine and H. Naora. Nucleic Acids Research 8(6):1187-1199 (1980).

12. Further studies on similarity of terminal nucleotide sequence of eukaryotic mRNA. A possible mechanism of RNA splicing. H. Naora, **N.J. Deacon**, and D. Buckle, J. Theor. Biol. 85:83-97 (1980).

13. The 3'- terminal primary structure of five eukaryotic 18S rRNAs determined by the direct chemical method of sequencing. The highly conserved sequences include an invariant region complementary to eukaryotic 5S RNA. A.A. Azad and **N.J. Deacon**. Nucleic Acids Res. 8(19):4365-4376 (1980).

14. A possible regulatory mechanism in RNA processing and its implication for post transcriptional sequence control during differentiation of cell function. H. Naora and **N.J. Deacon**, Differentiation 18:125-131 (1981).

15. Electron microscopic observations of heterogeneous nuclear RNA of chicken reticulocytes. H. Naora and **N.J. Deacon**. BBA 653:91-97 (1981).

16. Nucleotide sequence complementarity between adenovirus 2-coded VA RNA and host cell pre-mRNA - a possible regulatory mechanism of cellular RNA splicing by VA RNA. H. Naora and **N.J. Deacon**. Molec. Biol. Reps. 7:115-121 (1981).

17. The in situ occurrence in nuclei of 5' and 3'- hairpin structures in chicken reticulocyte nuclear RNA. H. Naora and **N.J. Deacon**. Cell Structure and Function 6(2):103-110 (1981).

18. Clustered genes require extragenic territorial DNA sequences. H. Naora and **N.J. Deacon**. Differentiation 21:1-6 (1982).

19. Implication of the effect of extragenic territorial DNA sequences on a mechanism involving switch-on/off of neighbouring genes by transposable elements in eukaryotes. H. Naora and **N.J. Deacon**. Proc. Natl. Acad. Sci. USA 79:6196-6200 (1982).

20. A small chromatin-associated RNA homologous to repetitive DNA sequences. V. Holdbeck, **N.J. Deacon**, D.W. Buckle, H. Naora. Eur J. Biochem. 137:249-256 (1983).

21. Territorial confrontation among genes and activation of a cellular oncogene. H. Naora, **N.J. Deacon**, and A.W. Braithwaite. J. Theor. Biol. 105:715-721 (1983).

22. Molecular cloning and partial nucleotide sequence of a 3.5kb HLA-B27 associated fragment of genomic DNA. J.A. Trepani, C.A. Mickelson, **N.J. Deacon**, D.J. Hooker and I.F.C. McKenzie. Immunogenetics 22:399-405 (1985).

23. Altered processing and transport of nuclear RNA during chemical carcinogenesis. Holoubeck V., Antonlades D., Brajanovic N, **N.J. Deacon**, Huru H.R., Naora H, and Yoshida M, in Nuclear Envelope and RNA Mutation, Pub A.R. Liss inc, pp 615-643 (1985).

24. Characterisation of the Gene coding for the Human Lymphocyte Surface Antigen HuLy-m2 (CD7). Sandrin M.S., Vaughan H.A., Lovering K.E., Curnow K., **Deacon N.J.**, and McKenzie I.F.C. In "Leucocyte Typing III. White Cell Differentiation Antigens". Ed A.J. McMichael et al, Oxford University Press 1987, pp 216-219.

25. Isolation of the CD7 gene from the DNA of transfected L cells. Cloning of the CD7 gene. Lovering K.E., **Deacon N.J.**, Mickelson C.A., Vaughan H.A., Curnow K.M., McKenzie I.F.C. and Sandrin M.S., Immunogenetics 25:391 25:391-396 (1987).

26. Molecular analysis of Ly-2/3 and L3T4 molecules. Classon, B.J. Murray, B.J. Walker I.D., **Deacon N.J.**, Pietersz G.A., Chambers G.W., Kirszbaum L., and McKenzie I.F.C. Trans. Proc. 18:287-289 (1986).

27. The amino-terminal sequences of Ly-2 and Ly-3. Walker I.D., Murray B.J., Kirszbaum L., Chambers G.W., **Deacon N.J.**, and McKenzie I.F.C. Immunogenetics 23:60-63 (1986).

28. The murine Fc receptor for immunoglobulin: Purification, partial amino acid sequence and isolation of cDNA. Hibbs, M.L. Walker, I.D. Kirszbaum, L. Pietersz, G.A. **Deacon N.J.**, Chambers G.W., McKenzie I.F.C., and Hogarth P.M. Proc. Natl. Acad. Sci. 83:6980-6984 (1986).

29. Molecular Characterisation of the Murine Cytotoxic T-cell Membrane Glycoprotein Ly-3 (CD8). Panaccio M., Gillespie M.T., Walker I.D., Kirszbaum L., Sharpe J.A., Tobias G.H., McKenzie I.F.C., and **Deacon N.J.** Proc. Natl. Acad. Sci. 84 6874-6878 (1987).

30. Isolation of a cDNA Clone for the Murine CD4 Antigen. Clark G.J., Tobis G.H., Pietersz G.A., Classon B.J., Walker I.D., McKenzie I.F.C., and **Deacon N.J.**, Transplantation Proc. 20, 45-48 (1988).

31. Elevated Expression in Human Tumours of a Novel Gene, NBL, Isolated from Burkitt Lymphoma, Decruz E.E., **Deacon N.J.**, Matthaei K., and Naora H., Cancer Res *(in press)* (1987).

32. Gibbon ape leukaemia virus related sequences in humans. Yang C., Purcell D.F.J., Hooker D.J., McKenzie I.F.C., and **Deacon N.J.** Australian Primatology 3, 5 (1988).

33. Phylogeny and Structure of the Ly-2 and Ly-3/CD8) complex, M.T. Gilespie M. Panaccio, I.F.C. McKenzie and **N.J. Deacon**. Immunol. Cell. biol. 67 79-82 (1989).

34. Murine Ly-3 Restriction Fragment Length Polymorphism and Transcript Size Differences. M. Panaccio, M.T.G. Gillespie, I.F.C. McKenzie and **N.J. Deacon.**, Immunol. Cell Biol, 67 429-432 (1989).

35. The human non-lineage antigen CD46 (HuLy-m5) and primate retroviral gp70, molecules share protein defined antigenic determinants. D.F.J. Purcell, **N.J. Deacon**, and I.F.C. McKenzie. Immunol. Cell Biol. 67 279-289 (1989).

36. HuLy-m5, an antigen sharing epitopes with envelope gp70 molecules of primate retroviruses, has a structural relationship with complement regulatory molecules D.F.J. Purcell, G.J. Clark, M.A. Brown, I.F.C. McKenzie, M.S. Sandrin and **N.J. Deacon**. Leukocyte Typing IV White Cell Differentiation Antigens. Vienna Feb/March 1989. p 653-656.

37. The potential of the polymerase chain reaction in veterinary research and diagnosis. **N.J. Deacon** and M. Lah. Australian Veterinary Journal, 66 442-444 (1989).

38. Synthesis and Analysis of Peptides to Murine CD4 Molecules. G.J. Clark, M.A.C. Lademann, K. Reynolds, M.M. Henning, A. Kelso, R. Sutherland, D. Purcell, **N.J. Deacon.**, and I.F.C., McKenzie. Transpl. Proc. 21:271-212 (1989).

39. Identification of the murine ßFcyRII polymorphism by direct sequencing of amplified genomic DNA. M. Lah, K. Quelch, **N.J. Deacon**, I.F.C. McKenzie, and P. M. Hogarth. Immunogenetics 31: 202-206 (1990).

40. Human trophoblast expression of retroviral-like activity and CD46/Membrane Cofactor Protein (MCP), HuLy-m5, H316 (TLX) antigen. PM Johnson, JM Risk, J.M. Mwenda, C.A. Hart, D.F.J. Purcell and **N.J. Deacon**. In reproductive Immunology 1989 ed L. Mettler and W.D. Billington, Elsevier, Amsterdam.

41. Human non-linage antigen, CD46 (HuLy-m5): Purification and partial sequencing demonstration structural homology with complement regulatory glycoproteins. D.F.J. Purcell, **N.J. Deacon**, S.M. Andrews and I.F.C. MCKenzie. Immunogenetics 31 21-28 (1990).

42. The human cell surface glycoprotein HuLy-m5, membrane cofactor protein (MCP) of the complement system, and trophoblast leucocyte-common (TLX) antigen CD46. D.F.J. Purcell, I.F.C. McKenzie, D.M. Lublin, P.M. Johnson, J.P. Arthurson, T.J. Oglesky and **N.J. Deacon**. Immunology 70 155-161 (1990).

43. Simplified colorimetric analysis of polymerase chain reaction. Detection of HIV sequences in AIDS patients. D.J. Kemp, M.J. Churchill, D.B. Smith, B.A. Biggs, S.J. Foote, M.G. Peterson, N. Samaras, **N.J. Deacon**, R.R. Doherty. Gene 94 223-228 (1990).

44. Alternatively spliced RNAs encode several isoforms of CD46 (MCP), a regulator of complement activation. D.F.J. Purcell, S.M. Russell, **N.J. Deacon**, M.A. Brown, D.J. Hooker & I.F.C. McKenzie. Immunogenetics 33, 335-344 (1991).

45. Antibodies to gp41 and nef in otherwise HIV-negative homosexual man with Kaposi's sarcoma. F.J. Bowden, D.A. McPhee, **N.J. Deacon**, S.A. Cumming, R.R. Doherty, S. Sonza, C.R. Lucas, S.R. Crowe. Lancet 337, 1313-1314 (1991).

46. Identification of two novel human immunodeficiency virus type 1 splice acceptor sites in infected T-cell lines. J Smith, A Azad & **NJ Deacon**. J Gen Virol 73 1825-1828 (1992).

47. Amplification of low copy number, large DNA sequences in human genomic DNA using Tub DNA polymerase. H Forrester, I Radford and **NJ Deacon.** BioTechniques 17, 20-22 (1994).

48. Accumulation of Unintergrated Viral DNA in Monocytes and Growth-Arrested T CellsFollowing Infection with HIV-1. S Sonza, R Kiernan, A Maertz, N **Deacon**, D McPhee and S Crowe. J. Leucocyte Biol.56, 289-293 (1994).

49. Reverse transcriptase mutants in sequential HIV isolates in a patient with AIDS. AD Gurusinghe, SA Land, C Birch, C McGavin, D Hooker, G Tachedjian, RR Doherty and **NJ Deacon**. J. Med. Virol.46, 238- 243 (1995).

50. Characterisation of Foscarnet-Resistant Strains of Human Immunodeficiency Virus Type-1. G Tachedjian, D Hooker, A Gurusinghe, H Bazmi, **NJ Deacon**, J Mellors, C Birch and J Mills. Virology 212, 58-68 (1995)

51. Genomic Structure of an Attenuated Quasispecies of HIV-1 from a Blood Transfusion Donor and Recipients. **NJ Deacon**, A Tsykin, A Solomon, K Smith, M Ludford- Menting, DJ Hooker, DA McPhee, AL Greenway, A Ellett, C Chatfield, VA Lawson, S Crowe, A Maerz, S Sonza, J Learmont, JS Sullivan, A Cunningham, D Dwyer, D Dowton and J Mills. Science 270, 988-991 (1995).

52. AttenuatedHIV Vaccine Caveats. **NJ Deacon**, DA McPhee, S Crowe, J Learmont and J Mills. Science 271, 1790 1792 (1996).

53. Is the Nef Protein of HIV-1 Required for Pathogenesis?: Response. **NJ Deacon**, DA McPhee, S Crowe, J Learmont and J Mills. Trends in Microbiology 4, 173 (1996).

54. Elimination of sequence ambiguities by a single step modification of a solid-phase, single-stranded sequencing protocol. Victoria Alice Lawson, Dale Alan McPhee and **Nicholas John Deacon**. BioTechniques 21, 356-358 (1996).

55. HIV-1 Replication is Blocked Prior to Reverse Transcription and Integration in Freshly Isolated but Not in Cultured Blood Monocytes. S Sonza, Maertz A, **Deacon NJ**, Meanger J, Mills J and Crowe S. J Virology 70, 3863-3869 (1996).

56. A Fourth Sp1 Site in the HIV-1 LTR is Essential for Negative Sense Transcription. A Peeters, PF Lambert and **NJ Deacon**. J Virology 70, 6665-6672 (1996).

57. An in Vivo Mutation from Leucine to Tryptophan at Position 210 in Human Immunodeficiency Virus Type-1 Reverse Transcriptase Contributes to High Level Resistance to 3'-Azido-3'-Deoxythimidine (AZT). D Hooker, G Tachedjian, A Solomon, A Gurusinghe, S Land, C Birch, J Anderson, BM Roy, E Arnold and **NJ Deacon** J Virology 70, 8010-8018 (1996).

58. An attenuated strain of HIV-1: Discovery and prospects. **NJ Deacon**, DA McPhee, S Crowe, J Mills and J Learmont. Today's Life Science 8, 22-27 (1996).

59. Construction of an infectious molecular clone of gibbon ape leukaemia virus. D Hooker, CA Wilson, MR Eiden and **NJ Deacon**. Virology (submitted) 1995.

60. Modulation of CD11a Expression on Cultured Macrophages. G Stent, S Sonza, SR Lewin, **NJ Deacon** and S Crowe. Molecular Immunology (submitted) 1995.

61. The *NFKB1* promoter is controlled by proteins of the Ets family. Lambert PF, Ludford-Menting MJ. **Deacon N.J**, Kola I and Doherty RR.. Mol. Biol. of Cell (1997) 8, 313-323.

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110. Lloyd Pereira, Paul F Lambert, Melissa J Churchill and **Nicholas J Deacon**. Binding of transcription factors to the negative regulatory element of the HIV-1 LTR. 19th Annual Conference on the Organisation and Expression of the Genome, Lorne Victoria, 17-21nd Feb 1997.

111. Anna Tsykin, Karen Smith Ajantha Solomon, David Rhodes and **Nicholas J Deacon**. Sequence evolution in an attenuated quasispecies of HIV-1 from a blood transfusion donor and recipients. 19th Annual Conference on the Organisation and Expression of the Genome, Lorne Victoria, 17-21nd Feb 1997.

112. **Nick Deacon**, Anna Peeters, Lloyd Periera, Mandy Ludford-Menting, Melissa Churchill and Paul Lambert. Bidirectional Promotion of Transcription from the HIV-1 LTR.. Mechanisms of Eukaryotic Transcription Meeting, Cold Spring Harbor, NY, USA, Sept 27-31 1997.

113. Thompson, PR and **Deacon, N**. Characterisation of the LTR Region in a Cohort of HIV-1 Long Term Non Progressors. Australasian Society for HIV Medicine 9th Annual Conference, Adelaide, 13-16 Nov, 1997

114. David Rhodes, Ajantha Solomon and **Nick Deacon**. Sydney Bloodbank Cohort Virus Evolution and Quantitation of Virus Attenuation. Australasian Society for HIV Medicine 9th Annual Conference, Adelaide, 13-16 Nov, 1997

115. Helen Mutimer, Damian Purcell, **Nicholas Deacon**, Suzanne Crowe and Con Sonza. Comparison of HIV-1 RNA Splicing in Blood Monocytes with that in T-Lymphocytes of Infected Individuals. Australasian Society for HIV Medicine 9th Annual Conference, Adelaide, 13-16 Nov, 1997.

116. Helen Mutimer, Damian Purcell, **Nick Deacon**, Suzanne Crowe and Secondo Sonza. Control of Post-Transcriptional Processing During HIV Replication in Macrophages and T-Lymphocytes. Australasian Society for HIV Medicine 9th Annual Conference, Adelaide, 13-16 Nov, 1997.

Recent Invited lectures and seminars.

1. **Nick Deacon**. "Molecular Basis of HIV-1 Resistance to AZT". Pathology Department, Royal Melbourne Hospital, 6th Sept 1995.

2. **Nicholas J Deacon**, Dale A McPhee, Suzanne Crowe, Jenny Learmont, Anthony Cunningham, and J Mills. "Characterisation of Attenuated Strains of HIV-1". Plenary lecture at 7th Annual Conference of the Australasian Society for HIV Medicine/National Centres in HIV Research, Coolum, Qld, November 1995.

3. **Nicholas J Deacon**, Dale A McPhee, Suzanne Crowe, Jenny Learmont, Anthony Cunningham, and J Mills. "Characterisation of Attenuated Strains of HIV-1". Microbiology Department, University of Queensland, St Lucia, Qld, 20th Nov 1996.

4. **Nick Deacon**. "AIDS Breakthrough: New Hope or a New Battleground?" National Press Club Telstra Address, Canberra, ACT, Dec 13th 1995.

5. **NJ Deacon**. "Nef-LTR defective virus in long-term non-progressors." HIV Accessory Proteins: Therapeutic Opportunities, Satellite Conference, Washington, DC, USA, 1st Feb 1996.

6. **NJ Deacon**. "Nef-LTR defective virus in long-term non-progressors." Centre for the Study of Sexually Transmitted Diseases, La Trobe University (Carlton Campus), 6th March 1996.

7. **NJ Deacon**. "Nef-LTR defective virus in long-term non-progressors". Austin Research Institute, Austin and Repatriation Hospital, Melbourne, 4th April 1996.

8. **NJ Deacon**. "HIV-1 *nef*/LTR defects in non-progression to AIDS". Department of Microbiology, University of Melbourne, 29th April 1996,

9. **NJ Deacon**. "Attenuated HIV-1 in long-term non-progressors". Walter and Elisa Hall Institute for Medical Research, Melbourne, 1st May 1996.

10. **NJ Deacon**. "Indicators for a live attenuated virus vaccine against HIV-1/AIDS". CRC Vaccine Technology and the Immunology Group of Victoria, Winter Symposium, Walter and Elisa Hall Institute for Medical Research, Melbourne, 20th June 1996.

11. **NJ Deacon**. "The HIV-1 genome and non-progression to AIDS". St Vincent's Institute for Medical Research and Department of Medicine, St Vincent's Hospital, Fitzroy, Melbourne, 9th July 1996.

12. **NJ Deacon**. "The HIV-1 genome and non-progression to AIDS". Research School for Biological Sciences, ANU, Canberra, 25th July 1996.

13. **NJ Deacon.** "Genomic defects in an attenuated strain ofHIV-1". AMRAD Pharmaceuticals, Richmond, Victoria, 22nd August 1996.

14. **NJ Deacon.** "Genomic structure of an attenuated strain of HIV-1". Peter Macallum Cancer Institute, Melbourne, 15th August 1996.

15. **NJ Deacon.** "Genomic structure of an attenuated strain of HIV-1". Physical Sciences, La Trobe University, Melbourne, 28th August 1996.

16. **NJ Deacon.** "Genomic defects in an attenuated strain of HIV-1". Department of Pathology, University of Melbourne, Melbourne, 4th September 1996.

17. **NJ Deacon.** "Genomic Defects in Non-Pathogenic HIV-1". Lecture in Viral Pathogenesis Symposium, Australian Society for Microbiology/New Zealand Society for Microbiology Joint International Scientific Conference, Christchurch, New Zealand, 29th Sept-4th Oct 1996.

18. **NJ Deacon.** "An attenuated strain of HIV-1 - vaccine prospects". Ludwig Institute of Cancer Research, Melbourne, 25th October 1996.

19. **NJ Deacon.** "Genomic Defects in a Non-Pathogenenic Strain of HIV-1". HIV/AIDS Symposium, Joint Australian Society for Immunology and Federation of Immunological Societies of Asia-Oceania First Congress, Adelaide, Australia, 1st-5th December 1996.

20. **NJ Deacon.** "Genomic Defects in a Non-Pathogenenic Strain of HIV-1". Mutation Research Centre, St Vincent's Hospital, Fitzroy, Melbourne, 26th February, 1997.

21. **NJ Deacon.** "Towards a live attenuated virus vaccine against HIV-1". Department of Medicine, University of Melbourne, Austin Hospital Heidelberg, Melbourne, 21st May, 1997.